

a laser for emitting a beam source;

a beam shutter for stopping the beam output returning;

a 3dB optical fiber coupler for separating the beam strength from said lensed fiber and laser by 50:50;

a beam detector for detecting reflected beam strength from the end of said lensed fiber;

a RC filter for filtering said detected beam;

a microprocessor for analyzing said detected beam strength;

an amplifier for amplifying the strength of electric signals according to the control of said microprocessor;

a PZT driver for driving PZT according to the strength of electric signals amplified by said amplifier;

a X-Y axis scanner driver for driving a X-Y axis scanner according to the control of said microprocessor;

a X axis scanner for driving the X axis according to the driving of the X-Y axis scanner; and

a Y axis scanner for driving the Y axis according to the driving of the X-Y axis scanner.

2. (Clean Copy) A method for measuring the thickness of a material using the focal length of a lensed fiber, wherein said lensed fiber generates a form of Gaussian Beam and is attached to PZT in order to detect the quantity of beam while the lensed fiber is moved vertically against the material to be measured.

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Cont

3. (Clean Copy) The apparatus as claimed in Claim 1, wherein the thickness of said material is measured by using a lensed fiber whose focal length is longer than the beam coherent length of the beam.

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5. (Twice Amended-Clean Copy) The method as claimed in Claim 2, wherein instead of the lensed fiber, a normal lens is used for measuring the thickness of the material.

8. (Clean Copy) The apparatus as claimed in Claim 1, wherein instead of the lensed fiber, a normal lens is used for measuring the thickness of the material.

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9. (Clean Copy) The apparatus as claimed in Claim 3, wherein instead of the lensed fiber, a normal lens is used for measuring the thickness of the material.

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10. (Clean Copy) The apparatus as claimed in Claim 4, wherein instead of the lensed fiber, a normal lens is used for measuring the thickness of the material.

REMARKS

Claims 1-3, 5, 8-10 have been amended to define the features of the invention more properly and to improve the Examination process. The amendments to the claims are